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Proterozoic clastics and the Archeozoic crystallines.

CHARLES R. KEYES.

NEW MEXICO SCHOOL OF MINES.

BOTANICAL NOTES.

STUDIES OF ISLAND VEGETATION.

Two contributions to Atlantic island floras have recently appeared dealing with the plants of the Bahamas and the Bermudas respectively. Dr. Charles F. Millspaugh's 'Contributions to a Flora of the Bahamian Archipelago' issued (under the title 'Praeununciae Bahamenses, I.') by the Field Columbian Museum in February, 1906, is the first of a proposed series intended thoroughly to cover the flora of these islands. A large amount of material collected by many botanists has been brought together for the use of Dr. Millspaugh in his study of the species. The principal collectors represented are L. J. K. Brace (1875 to 1905); N. L. Britton (1904-5); E. G. Britton (1905); W. C. Coker (1903); Wm. Cooper (1859); A. H. Curtiss (1903); F. S. Earle (1903); M. A. Howe (1904-5); C. F. Millspaugh (1904-5); G. V. Nash and N. Taylor (1904); A. R. Northrop (1890); J. T. Rothrock and A. S. Hitchcock (1890); A. E. Wright (1905). The families of plants represented in this paper are *Amaranthaceae*, *Euphorbiaceae*, *Rubiaceae*, *Verbenaceae* and *Solanaceae*. New species are described in each of these families, aggregating fourteen in all, and two new genera of *Verbenaceae* are characterized. It is noteworthy that both generic and specific descriptions are in Latin, in accordance with the growing feeling among botanists that all new descriptions should be so written.

The second paper is a 'List of Plants Collected in Bermuda in 1905' by Albert H. Moore. It is the result of collections made by Mr. Moore in Bermuda in July and August, 1905. The specimens (with few exceptions) were determined by comparison in the Gray Herbarium of Harvard University. As a result we have a list of 221 species, two of which are new to science. The latter are illustrated by reproductions of photographs.

Eleven species are listed as endemic in Bermuda, including three ferns, a juniper, two sedges, a palm, a *Sisyrinchium*, an *Elaeodendron* (tree of a new species), a *Statice*, and an *Erigeron*. The descriptions are in Latin here also, and the nomenclature is in accord with the rules adopted in the Vienna congress last year.

From the other side of the world we have a pamphlet of about one hundred pages devoted to Philippine plants, and containing five papers, viz.: 'New and Noteworthy Philippine Plants, IV.'; 'Notes on Cuming's Philippine Plants in the Herbarium of the Bureau of Government Laboratories'; 'Notes on Philippine *Gramineae*'; '*Scitamineae* Philippenses'; 'Philippine *Acanthaceae*.' Many new species are described, two of which are of especial interest, viz: *Acer philippinum* and *Fraxinus philippensis*. Neither one of these genera had been known previously on the islands. The *Gramineae* are treated by Hackel, the well-known agrostologist of Gratz, Austria.

In this connection mention should be made of *The Philippine Journal of Science*, the first number of which was issued by the Bureau of Science of the Government of the Philippine Islands in January of the present year. Its purpose is the publication of the researches of the Bureau of Science. There are to be ten numbers a year, aggregating approximately one thousand pages, and these are to take the place of the bulletins hitherto issued by the government laboratories. The subscription price is placed at five dollars per year.

ANOTHER NOMENCLATURE RULE.

In his 'Leaflets' issued April 10, 1906, Dr. E. L. Greene prints a timely and vigorous protest against the dedication of more than one genus to any man, however eminent, and calls attention to the practise of some of the earlier masters of botany, who promptly suppressed duplicate names. Thus Dr. Torrey rejected *Wittea*, proposed by Kunth in honor of De Witt Clinton, with the comment 'it would be inadmissible to bestow two genera on the same person,' holding that *Clintonia*

fully satisfied the demands in the case. Dr. Green approves of this decision of Torrey's, and speaks of the principle involved as 'a law so plain that it never seemed to need formal and verbal enactment until within the last decade.' He holds that it is far better 'to name one good genus after a man' than 'to use his name as a merely convenient foundation for the making of a dozen different names'; the first he considers to be a real honor, while of the latter he asks 'is not that to openly dishonor him?' Thus he accepts *Washingtonia*, but rejects *Neowashingtonia*, which he characterizes as 'impossible in any but a weak and degenerate system of nomenclature.'

SEASIDE LABORATORIES.

Attention is now directed to the increasing opportunities for the study of plant [and animal] life at waterside laboratories. For those who can make the trip probably no more attractive combination of camp life and a study of an unfamiliar vegetation can be found than is afforded by the Minnesota Seaside Station on the westerly shore of Vancouver Island, whose session begins July 8, and closes August 18. It is under the direction of Professor MacMillan, of the University of Minnesota.—Much like it, but much nearer, is the Biological Laboratory on Long Island, at Cold Spring Harbor, where from July 5 to August 18 instruction will be given in various lines of botany, especially of the lower forms. The botanical work here is under the direction of Professor Johnson, of Johns Hopkins University.—At Woods Hole, Massachusetts, the nineteenth session of the Marine Biological Laboratory is announced to open June 1 and to extend to October 1, with instruction in botany from July 5 to August 16. The opportunities for investigation in this long-established laboratory are such as should induce many an advanced student to spend the summer there. The botanical work the present season is to be under the supervision of Dr. George T. Moore, of Washington, D. C.

NOTES ON RECENT BOTANICAL PAPERS.

Among noteworthy botanical papers may be

mentioned Professor Pond's 'Incapacity of the Date Endosperm for Self-digestion' in which the author shows by a series of careful experiments that, contrary to the views of many botanists, the endosperm of the date is not capable of self-digestion, and that such digestion as takes place in the seed is due to the enzymes in the embryo.—Botanists will remember Dr. A. F. Blakeslee as the discoverer of the secret of zygospore formation in the Black Moulds (*Mucorineae*), and will learn with interest that he has been studying in Germany at the University of Halle, where he has continued his work on these interesting plants. His distribution of the + and — sexual strains of *Phycomyces nitens* and other species of *Mucorineae* has made it possible for botanists everywhere to have zygospores for laboratory study. The paper accompanying the specimens, entitled 'Studies in Mucorineae,' is mainly an abridgment of the full paper published a year or so ago in the Proceedings of the American Academy of Arts and Sciences. With it he gives, also, a brief summary of an interesting paper on 'Zygospore Germinations in the Mucorineae' originally published in the 'Annales Mycologici' early this year, in which he shows that such zygospores require a period of rest before germination, and determines the stability and instability of the sexual strains in *Sporodinia* and *Mucor*.—Professor Underwood's paper, 'American Ferns, IV.' (reprinted from the *Bulletin of the Torrey Botanical Club*, 1906, pp. 189–205), includes notices of forty species of Pteridophytes which have been added to the flora of the United States since the publication of the last edition (1900) of his book 'Our Native Ferns and their Allies.'—Professor Blankinship has brought together a mass of interesting information in his paper on the 'Native Economic Plants of Montana,' published as Bulletin No. 56 of the Montana Experiment Station. He has given especial attention to the uses of these plants by the Indians.—M. A. Howe's 'Phycological Studies,' I. and II. (reprinted from the *Bulletin of the Torrey Botanical Club*, 1905 and 1906) include new *Chlorophyceae* and *Rho-*

dophyceae from Florida and the Bahama Islands. A dozen good plates, partly photographic, accompany these studies. — Recent papers by Professor F. L. Stevens include 'The Science of Plant Pathology' (a popular discussion, first published in the *Popular Science Monthly*, September, 1905), 'Oogenesis and Fertilization in *Albugo ipomoeae-panduranae*' (a cytological study from the *Botanical Gazette*, October, 1904), 'A Nature-Study Lesson with the Moulds' and 'A Simple Experiment on Spontaneous Generation' (both popular articles for teachers and pupils in the public schools, originally published in the *Nature-Study Review*). — Dr. E. J. Durand's recent papers on fungi include 'The Genus *Sarcosoma* in North America,' 'Three new Species of Discomycetes' and '*Peziza fusicarpa* and *Peziza semitosta*,' all from the *Journal of Mycology*. — Professor Halsted's 'Report of the Botanical Department for 1905,' published by the New Jersey Agricultural Experiment Station, is as usual a marvel in the way of containing the results of an astonishing number of experiments and observations. Many fine half-tone reproductions of photographs add much to the usefulness of this admirable report.

CHARLES E. BESSEY.

THE UNIVERSITY OF NEBRASKA.

THE WORCESTER POLYTECHNIC INSTITUTE.

THE Worcester Polytechnic Institute has just awarded a contract for the erection of a new building to be used exclusively for electrical engineering. It is designed to have this building put up as rapidly as possible so that it may be used during as large a portion of the next school year as possible. The building has been designed by the firm of Peabody & Stearns, Boston, architects. Professor A. W. French, the head of the civil engineering department at the Worcester Institute is to act as consulting engineer and superintendent of construction.

The plans for this building have been under consideration for some time and it is the intention of the trustees to make it the most thoroughly equipped and up to date elec-

trical engineering laboratory anywhere in this country.

The large general laboratory will have a length of 200 feet and a width of 55 feet. This with three galleries which form a part of the plan will give a floor area of 19,400 square feet and will constitute what is undoubtedly the largest electrical engineering laboratory in the world. This laboratory will be served by a ten-ton electric controlling crane covering the entire central portion of the laboratory between the galleries. The galleries will be served by two-ton controlling hoists covering their entire length. The usual lecture rooms, recitation rooms, and design rooms and special laboratories and workshops are to be found in the building; but the feature upon which the greatest amount of thought has been expended and the feature which will undoubtedly attract the greatest amount of attention is the electric railway testing laboratories. The Worcester Polytechnic Institute is a pioneer in this kind of work and is at the present time the only institution in the United States where an independent chair in electric railway engineering has been established. Connection will be made with the tracks of the Worcester street railway system, so that electric cars can be run directly into the laboratory and the tests conducted there.

Ample facilities are also to be provided for work in connection with insulation and with high potential transmission. The equipment of the laboratory will permit the use of voltages of any desired frequency and potential up to 750,000 volts for the study of the various problems of long-distance high potential power transmission and the dielectric and electrostatic phenomena of insulating and other material.

The plans as drawn by Peabody and Stearns provide for an attractive building architecturally. In its location the building will front on Salisbury Street, directly opposite Institute Park, thus giving it one of the most beautiful locations to be found in the city.

L. L. CONANT.